

Remarks

Oath/Declaration

With reference to page 2 of the Office Action of August 13, 2000, at paragraph 3, the oath or declaration was found to be defective. A new Declaration in compliance with 37 CFR 1.67(a), duly executed, is attached.

Specification

The Office Action at page 2, paragraph 4 raises a requirement for an Abstract in proper language and format. An Abstract is attached hereto on a separate sheet.

Drawings

The Office Action at page 3, paragraph 5 raises an objection to the drawings under 37 CFR 1.83(a). The Office Action raises five specific objections, each related to a specific claim: claim 13, claim 24, claim 25, claim 29, and claim 36. These are now addressed as follows:

Claim 13

The Applicants respectfully submit that the claim as now amended, substituting unsealed portion for "open end" is adequately disclosed in the specification to meet §112 requirements, and that one skilled in the art is quite familiar with bags or other thermoplastic tubes or containers that have an unsealed portion.

The specification specifically teaches at page 20 that

The operation of the machine is generally similar to the machine of FIGS. 1-13 and unless indicated otherwise it should be understood that the detailed structure and componentry and operation of the preferred embodiment machine of FIG. 14 is similar to that of the machines of FIGS. 1-13.

Figures 4 through 7 shown a sealing assembly 15 clearly designed to seal an open end of a bag, or an open end of a tube. At page 12, the unsealed portion of the product package is referred to, and this portion is shown in Figure 7, in the process of being sealed in the sealing assembly 15.

Claim 24

The Applicants respectfully submit that the subject matter of claim 24 is adequately disclosed in the specification to meet §112 requirements. At page 5, the specification states

A sensor is suitably provided to sense the trailing edge of a leading product and/or the leading edge of the trailing product in the product package on a conveyor.

At page 27, the specification states

The indexing of the products relative to the sealing and cutting assembly will generally be achieved by providing a sensor upstream of the vacuum chamber. The sensor may be configured for example to detect the leading and trailing edges of the first product and the leading and trailing edges of the second product. Such a sensor 151 is shown schematically in Figure 17. By determining at least the trailing edge of the first product package, the system can determine, from the speed of the conveyor, when to stop operation of the conveyor to align the spacing between the products in the package with the sealing and cutting assembly. It can do this irrespective of the relative lengths or sizes of the first and second products in the package. If the sensor is configured to detect the trailing edge of the first product and the leading edge of the second product, when a larger gap is provided between the products in the package, that can be located centrally on the lower part of the heat sealing and cutting assembly. Similar configurations could be used in the embodiments of Figures 15 and 16. In the embodiment of FIG. 15 for example, the trailing edge of the leading product could be detected on the infeed conveyor, and the speed of and duration of operation of the infeed conveyor and the chamber conveyors 142a, 142b could be controlled accordingly.

Sensor 151, referred to in the cited paragraph of the specification, appears in Figure 17. Applicants respectfully submit that the drawings and specification adequately disclose and describe the subject matter of claim 24.

Claim 25

The Applicants respectfully submit that the subject matter of claim 25 is adequately disclosed in the specification to meet §112 requirements. Nevertheless, to expedite the prosecution of this application, claim 25 has been canceled.

Claim 29

The Applicants respectfully submit that the subject matter of claim 29 is adequately disclosed in the specification to meet §112 requirements.

At page 5, last paragraph, the specification states

The vacuum packaging machine is advantageously configured to load and unload product packages concurrently.

At page 9, first paragraph, the specification states

The product package(s) is/are suitably loaded into the vacuum chamber concurrently with the unloading of the evacuated product packages.

At page 12, third paragraph, the specification states in part:

As can be seen from FIGS. 1-3, the vacuum chambers are moveable together between a lower position (shown in FIGS. 1 and 2) wherein the upper chamber 3a is adjacent the infeed conveyor **17 for loading/unloading . . .**

[emphasis added]

At page 12, fourth paragraph, the specification states in part:

Having one of the vacuum chambers open **for loading/unloading** while the other of the vacuum chambers is performing the vacuum sealing operation . . .

[emphasis added]

At page 17, last paragraph, the specification states that:

[v]alve LVV can then be closed **as the lower vacuum chamber is opened to unload the packaged product therefrom and load a new unsealed product package.**

[emphasis added]

Reference is also made to Figures 1 to 3.

Applicants respectfully submit that the drawings and specification adequately disclose and describe the subject matter of claim 29.

Claim 36

The Applicants respectfully submit that the subject matter of claim 36 is adequately disclosed in the specification to meet §112 requirements. Nevertheless, to expedite the prosecution of this application, claim 36 has been canceled.

35 U.S.C. §112

The Office Action at pages 4 and 5, paragraphs 6 and 7 rejects claims 13, 18, 27 and 36 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to claims 27 and 36, this rejection is rendered moot by the cancellation of these claims.

Re: claim 13, please refer to the above discussion with respect to amended claim 13.

Re: claim 18, this claim has the following language as now amended:

“The vacuum packaging machine of claim 1, wherein the in-feed conveyor is arranged to deliver the product package to a position alongside the vacuum chamber, and comprising a further conveyor configured to load the product package from the conveyor into the vacuum chamber in a transverse direction.

The Office Action at page 5 states that

In claim 1, . . . the vacuum chamber is required to receive the product longitudinally with the product feeding conveyor . . .

Applicants have now amended claim 1, and respectfully submit that as amended this is consistent with claim 1, and also with claim 18. Claim 18 is based in part on the specification at pages 25 and 26 where the following is disclosed:

Figures 17 and 18 show an arrangement in which the direction of movement of chamber conveyors 142 is generally parallel to rather than across the sealing and cutting assembly 143. Infeed conveyor 17 delivers a sealed package containing two meat cuts to a position adjacent the vacuum chamber and chamber conveyors 142 operate to pick up the package and load it into the vacuum chamber so that the centre part of the package is positioned across the lower part of the sealing and cutting assembly 143 which is typically a heat seal anvil as described (see Figure 18). After evacuating, sealing and cutting, and opening of the chamber, chamber conveyors 142 operate again to deliver the two packages onto outfeed conveyor 144 (see packages PC in Figure 17).

A number of alternative arrangements can be used for transferring the product package from the infeed conveyor 17 to the chamber conveyors 142 in the embodiment of Figures 17 and 18. For example, one or more pushers could be arranged and operable to push the product package from the infeed conveyor 17 to the chamber conveyors, the chamber conveyors 142 could be arranged to extend out from the vacuum chamber to pick the product package up off the infeed conveyor, or a transverse indexing conveyor could be arranged to move with the infeed conveyor. These are options only, and other alternatives could be used.

Thus, in claim 1, the in-feed conveyor advances the product package from an upstream station to a position “adjacent” the vacuum chamber, This adjacent position can be upstream of the vacuum chamber (as shown for example in Figures 14 through 16), or alternatively can be *alongside* the vacuum chamber (as shown in Figures 17 and 18). In both embodiments, the in-feed conveyor is arranged to deliver the product package from an upstream station to a position adjacent the vacuum chamber. In both cases, the in-feed conveyor has a longitudinal direction defined by the direction of travel of the product package on the in-feed conveyor. Clearly, in Figures 17 and 18, where the in-feed conveyor comes alongside the vacuum chamber, a mechanism is used to transfer the product package onto the vacuum chamber. This is described in the above text and shown visually in Figure 17. It is the “further conveyor” of claim 18, not the in-feed conveyor, that travels in a transverse direction (see 142 of Figure 17 and the accompanying text). This “further conveyor” can be e.g. the chamber conveyor(s) (see 142 in Figure 17), or a transverse indexing conveyor.

The Applicants respectfully submit that the claims as now submitted adequately address the rejection of paragraphs 3 and 4. No new matter has been entered.

The Applicants submit that no new matter has been added in the amended claims.

35 U.S.C. §103

On page 6 of the Office Action, at paragraphs 8 and 9, claims 1 to 4, 7, 8, 14, 16, 21, 24, 25, 29, 32, and 34 to 36 were rejected under §103(a) as being unpatentable over Nixon, Jr. et al. (4,777,782) in view of Suga (2002/0083683).

On page 8 of the Office Action, at paragraph 10, claim 11 was rejected under §103(a) as being unpatentable over Nixon, Jr. et al. (4,777,782) in view of Suga (2002/0083683), and further in view of Glandon et al. (4,779,398).

Applicants respectively traverse to the extent these rejections are applied to the claims as presented.

Claim 1 as amended now also recites that the vacuum packaging machine comprises one or more chamber conveyors, disposed inside the vacuum chamber, for receiving the product package into the vacuum chamber and/or conveying the product package from the vacuum chamber following the vacuum, sealing and cutting operation.

The Applicants submit that no new matter has been added. Support for this amendment can be found in original claim 16, in Figures 14 to 18, and in various portions of the text referring to those Figures, i.e. pages 20 through 29.

On pages 6 and 7 of the Office Action, with respect to claim 16 on which this amendment is based, it is stated that “modified Nixon by Suga further discloses:

Regarding claim 16, one or more chamber conveyor (12) (Nixon – figures 1 and 2).

Applicants traverse this rejection to the extent it may be applied to claim 1 as amended. Claim 1 as amended requires an in-feed conveyor, as well as one or more chamber conveyors, the chamber conveyors disposed in the vacuum chambers. These conveyors are clearly distinct from one another, and serve distinct functions in the operation of the presently claimed invention. Nixon, Jr. et al. disclose a conveyor 12, shown in Figures 1 and 2. They do not appear to show any other conveyors. If the conveyor 12 of Nixon is regarded as an in-feed conveyor for purposes of patentability analysis, it does not show discrete conveyor(s) in the vacuum chamber, distinct from this in-feed conveyor. If conveyor 12 of Nixon is regarded as a chamber conveyor, it does not show a discrete in-feed conveyor.

With respect to claim 24 as currently amended, while sensors per se are well known, no reference or objective evidence is put forth to show a vacuum packaging machine as

claimed in claim 1, that includes a sensor, disposed above the in-feed conveyor, and upstream of the vacuum chamber, to sense the trailing edge of a leading product and/or a leading edge of a trailing product in the product package on the in-feed conveyor, where the product package contains two or more products.

Applicants respectfully submit that the claims as presented are novel and unobviousness over the art of record, and ask for allowance of the claims now presented.

If any fees are deemed due, please charge same to Deposit Account No. 07-1765.

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DATE

Respectfully submitted,



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